

What is claimed is:

1. An electromotive machine comprising a stator element and a rotor element,
wherein the stator element comprises at least one set of N toroidally shaped
electromagnetic members, the electromagnetic members arranged along an arc a predetermined
5 distance apart defining a stator arc length, each of the electromagnetic members having a slot,
wherein the rotor element comprises a disc adapted to pass through the slots of the
electromagnetic members, the disc containing a plurality of permanent magnet members spaced
side by side about a periphery thereof and arranged so as to have alternating north-south
polarities, the permanent magnet members being sized and spaced such that within the stator
10 arc length the ratio of electromagnetic members to permanent magnet members is N to $N+1$,
and

wherein N equals a number of electrical excitation phases applied to the
electromagnetic members, and

wherein when operating as a motor the electromotive machine is self-starting.

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